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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/821,428

03/29/2001

Jen-Kai Chen

JCLA5383

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23900

7590

10/04/2005

J C PATENTS, INC.  
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IRVINE, CA 92618

EXAMINER

LEVITAN, DMITRY

ART UNIT

PAPER NUMBER

2662

DATE MAILED: 10/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/821,428

Applicant(s)

CHEN ET AL.

Examiner

Dmitry Levitan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 11 and 16 is/are rejected.
- 7) ☒ Claim(s) 2-10, 12-15 and 17-20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 August 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

Amendment, filed 08/04/05, has been entered. Claims 1-20 remain pending.

***Drawings***

1. The drawings are objected to because of a typographical error on Fig. 5: FRRE instead of FREE. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

2. In light of Applicant’s amendment, the objection to the disclosure has been withdrawn.

***Claim Objections***

In light of Applicant’s amendment, the objection to the claims has been withdrawn.

*Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kozaki in view of Singh (US 6,625,159).

Kozaki substantially teaches the limitations of claims 1 and 11.

Kozaki teaches a system and a method for a switch controller inside a switch device for reducing network congestion (a switching system on Fig. 1 and 2:11-39, including the congestion control), the switch controller has a plurality of ports (input ports L1 and output ports L15 on Fig. 1) and the switch device further includes a shared buffer (shared buffer 11 on Fig. 1 and 4:65-67, 5:1-4) and a plurality of physical layer devices (Optical/Electrical converter circuits 20, 21 and termination circuit 22 on Fig. 1 and 4:41-49), the shared buffer can be divided into a plurality of buffering units (storage areas of individual cells, identified by their addresses and controlled as shown on Fig. 2 and 5:49-58), the switch controller comprising:

A buffer control device coupled to the shared buffer for assigning and releasing the buffering units (read/write devices 131-133 and 136 of shared buffer control unit 13 on Fig. 1 and 2, coupled to the shared buffer 11 on Fig. 1 and controlling/assigning empty address buffers utilizing empty address buffer 133 on Fig. 2 and 6:7-14),

A plurality of port control devices coupled to the physical layer devices (header control circuit 24, buffer 25, input buffer control circuit 26 and congestion information addition circuits

14 on Fig. 1 and 5:38-44, coupled to the physical layer devices on Fig. 1) and the buffer control device (shared buffer control unit 13), wherein each port control device has one-to-one correspondence with the ports (as shown on Fig. 1, where each control circuit is assigned to a port), the port control device that corresponds to a source port receives a network packet and then sends the packet to at least one of the buffering units for storage (input buffer control circuit 26 writes a received cell into a cell storage area of the shared buffer 11 4:53-67),

A forwarding control device coupled to the port control devices and a target port of the packet is determined according to a header of the network packet (call control unit 4:35-39, inherently forwarding packets to target port based on the packet headers, because packet forwarding is essential for any packet switch operation) and

A queue control device coupled to the port control devices and the buffer control device (congestion state RAM 13d on Fig. 2 coupled to the port control devices by L14 and coupled to the buffer control device as shown on Fig. 2), wherein the queue control device further includes a plurality of output queues, each output queue has one-to-one correspondence with the port control devices, (queues made of address chains for each output line/port 4:65-67 and 5:1-4, comprising predetermined queue threshold values for congestion identification 5:24-31), and the buffering unit for storing the packets is linked to the output queue corresponding to the port control device in a target port (shared buffer 11 on Fig. 1),

Wherein the source port triggers or terminates a congestion mode to control the number of free buffering units in response to the number of reserved buffering units in the output queue (output of buffer 25, connected to a source port, suppresses reading of input cells 5:24-48 until a

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recovery notice, controlling the number of free buffering addresses, avoiding empty area insufficiency in the shared buffer 3:35-43).

In addition to claim 11, Kozaki teaches a triggering or a terminating condition of the source port (each input line suppresses reading packets, destined to the congested output port, until a recovery notice 3:35-43).

Kozaki does not teach each output port comprises a number of reserved buffering units which are not used by any other output port.

Singh teaches each output port comprises a number of reserved buffering units which are not used by any other output port (reserving a guaranteed minimum number of buffers per output port of the switch as shown on Fig. 1 and 2:22-40).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add reserving a number of buffering units to each output port, which are not used by any other output port of Singh to the system of Kozaki to improve the system fairness, by limiting the amount of unreserved buffers consumed by a single input port.

5. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kozaki in view of Singh in further view of Chiou (US 6,577,625).

Kozaki in view of Singh substantially teaches the limitations of claim 16, including

Outputting the network packet from the target port (outputting cells 5:5-11),

Releasing the buffering unit after the network packet is output (storing an address of read cell in the empty address buffer 133 on Fig. 2 and 6:7-13).

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Kozaki in view of Singh does not teach selecting the type of congestion control in response to an external network device.

Chiou teaches selecting the type of congestion control in response to an external network device (selecting Congestion control threshold values in response to the mode, 10 or 100 Mbps, of an external network as shown in Tables 1 and 2 9:14-57).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add teachings of Chiou to the system of Kozaki in view of Singh to improve the system compatibility with different speed networks by selecting appropriate congestion control threshold values according the external network speed.

#### *Allowable Subject Matter*

6. Claims 2-10, 12-15 and 17-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### *Response to Arguments*

7. Applicant's arguments with respect to claims 1, 11 and 16 have been considered but are moot in view of the new ground(s) of rejection.

*Conclusion*

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dmitry Levitan whose telephone number is (571) 272-3093. The examiner can normally be reached on 8:30 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Dmitry Levitan  
Patent Examiner.  
09/29/05



HANH NGUYEN  
PRIMARY EXAMINER